

## UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICANT(S) Phillips, et al. GROUP ART UNIT: 2663  
APPLN. NO.: 10/772,832 EXAMINER: Richard Chang  
FILED: 02/5/04 Confirmation No. 6002  
TITLE: METHOD FOR PRESERVING WIRELESS RESOURCES IN A  
WIRELESS LOCAL AREA NETWORK

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**DECLARATION UNDER 37 C.F.R. § 1.131**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

The following Declaration and attachments are to establish conception in the United States of claimed subject matter in the referenced patent application and diligence to the filing of the referenced patent application on 5 February 2004 from a date prior to the effective date of United States Patent Publication No. US 2005/0025160 by Meier et al. which was filed in the United States on 5 November 2003, and relied upon by the Examiner to support a rejection under 35 U.S.C. 102 in the Office Action dated 25 May 2005.

In support of this declaration, I, Joseph E. Phillips of Huntley, Illinois, declare and say the following:

That I, in association with Mario F. Derango, Randy L. Ekl, and Michael H. Retzer, my co-inventors in the above-identified patent application, conceived the claimed subject matter of the referenced patent application in the United States before 5 November 2003, the filing date of United States Patent Publication No. US 2005/0025160 by Meier et al., in the course of employment by Motorola Inc., wherein the referenced application has been assigned thereto and a copy of the assignment has been attached as Appendix I;

CM05016H

That the claimed subject matter of the referenced patent application was the subject of a written disclosure prepared after conception, which discloses the conception date that is prior to 5 November 2003 and wherein the written disclosure was submitted in a disclosure form, used by the assignee, Motorola Inc., for the purpose of documenting, considering and maintaining invention disclosures (disclosure attached as Appendix II);

That the conception date which is the earliest verifiable date an individual who is a non-innovator witnessed the claimed subject matter, redacted from the disclosure form attached as Appendix II is prior to 5 February 2004;

That on information and belief on or about 10 May 2002 Motorola Inc. received the disclosure for review and subsequently decided to pursue patent protection on the written disclosure, and that thereafter, in due course, a patent application was prepared and filed in the United States Patent Office on 5 February 2004 by or on behalf of Motorola Inc.;

That all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Joseph E. Phillips 8-12-2005  
Joseph E. Phillips Date

CM05016H

# APPENDIX I

**UNITED STATES PATENT AND TRADEMARK OFFICE**UNDER SECRETARY OF COMMERCE FOR INTELLECTUAL PROPERTY AND  
DIRECTOR OF THE UNITED STATES PATENT AND TRADEMARK OFFICE

AUGUST 10, 2004

PTAS

MOTOROLA, INC.  
TERRI S. HUGHES  
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AUG 16 2004

\*102669193A\*

PATENT DEPT  
U.S. DOCKETINGUNITED STATES PATENT AND TRADEMARK OFFICE  
NOTICE OF RECORDATION OF ASSIGNMENT DOCUMENT

THE ENCLOSED DOCUMENT HAS BEEN RECORDED BY THE ASSIGNMENT DIVISION OF THE U.S. PATENT AND TRADEMARK OFFICE. A COMPLETE MICROFILM COPY IS AVAILABLE AT THE ASSIGNMENT SEARCH ROOM ON THE REEL AND FRAME NUMBER REFERENCED BELOW.

PLEASE REVIEW ALL INFORMATION CONTAINED ON THIS NOTICE. THE INFORMATION CONTAINED ON THIS RECORDATION NOTICE REFLECTS THE DATA PRESENT IN THE PATENT AND TRADEMARK ASSIGNMENT SYSTEM. IF YOU SHOULD FIND ANY ERRORS OR HAVE QUESTIONS CONCERNING THIS NOTICE, YOU MAY CONTACT THE EMPLOYEE WHOSE NAME APPEARS ON THIS NOTICE AT 703-308-9723. PLEASE SEND REQUEST FOR CORRECTION TO: U.S. PATENT AND TRADEMARK OFFICE, ASSIGNMENT DIVISION, BOX ASSIGNMENTS, CG-4, 1213 JEFFERSON DAVIS HWY, SUITE 320, WASHINGTON, D.C. 20231.

RECORDATION DATE: 02/05/2004

REEL/FRAME: 014968/0929  
NUMBER OF PAGES: 4BRIEF: ASSIGNMENT OF ASSIGNOR'S INTEREST (SEE DOCUMENT FOR DETAILS).  
DOCKET NUMBER: CM05200H

## ASSIGNOR:

PHILLIPS, JOSEPH E.

DOC DATE: 02/05/2004

## ASSIGNOR:

DERANGO, MARIO F.

DOC DATE: 02/05/2004

## ASSIGNOR:

EKL, RANDY L.

DOC DATE: 02/05/2004

## ASSIGNOR:

RETZER, MICHAEL H.

DOC DATE: 02/05/2004

## ASSIGNEE:

MOTOROLA, INC.  
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014968/0929 PAGE 2

SERIAL NUMBER: 10772832

FILING DATE: 02/05/2004

PATENT NUMBER:

ISSUE DATE:

TITLE: METHOD FOR PRESERVING WIRELESS RESOURCES IN A WIRELESS LOCAL AREA  
NETWORK

VIOLET MCCOY, EXAMINER  
ASSIGNMENT DIVISION  
OFFICE OF PUBLIC RECORDS

02-17-2004

ET

AUG 12 2005

DOCKET NUMBER: CM05200H



To the Honorable Commissioner of Patents and

102669193

documents or copy thereof.

## 1. Name of conveying party(ies):

Joseph E. Phillips  
Mario F. Derango  
Randy L. Ekl  
Michael H. Retzer

2-5-04

## 2. Name and address of receiving party(ies)

Name: Motorola, Inc.Internal Address: Law Department19270 U.S. PTO  
10/772832Additional name(s) of conveying party(ies) attached? ☐ Yes ☒ No

## 3. Name of conveyance:

☒ Assignment ☐ Merger  
☐ Security Agreement ☐ Change of Name  
☐ Other

Street Address: 1303 E. Algonquin Road

City: Schaumburg

State: IL

Zip: 60196

Execution Date: February 5, 2004

Additional name(s) & address(es) attached? ☐ Yes ☒ No

## 4. Application number(s) or patent number(s):

If this document is being filed together with a new application, the execution date of the application is February 5, 2004

A. Patent Application No.(s)

10772832

B. Patent No.(s)

Additional numbers attached? ☐ Yes ☒ No

## 5. Name and address of party to whom correspondence concerning document should be mailed:

Name: MOTOROLA, INC.

Internal Address:

Law Department

Street Address:

1303 E. Algonquin RoadCity: SchaumburgState: ILZip: 601966. Total number of applications and patents involved: ☐ 17. Total fee (37 CFR 3.41) \$40.00☐ Enclosed☒ Authorized to be charged to deposit account8. Deposit account number: 502117

(Attach duplicate copy of this page if paying by deposit account.)

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## 9. Statement and signature.

To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document

Terri S. Hughes

Name of Person Signing

Signature

February 5, 2004

Date

Total number of pages including cover sheet, attachments, and documents: ☐ 5Mail documents to be recorded with required cover sheet information to:  
Mail Stop Patent Application, Commissioner of Patents, P. O. Box 1450, Alexandria, VA 22313-1450

02/13/2004 LNUELLER 00000137 502117 10772832

01 FC:8021 40.00 DA

CM05200H

### ASSIGNMENT AND AGREEMENT

For good and valuable consideration, the receipt of which is hereby acknowledged, we, **JOSEPH E. PHILLIPS, HUNTLEY, IL; MARIO F. DERANGO, WAUCONDA, IL; RANDY L. EKL, LAKE ZURICH, IL; AND MICHAEL H. RETZER, PALATINE, IL**, have sold, assigned and transferred, and do hereby sell, assign and transfer, unto **MOTOROLA, INC.**, a corporation of the State of Delaware, having its principal office in Schaumburg, State of Illinois, United States of America, and its successors, assigns, and legal representatives, the entire right, title and interest for the United States of America in and to certain inventions relating to improvements in **METHOD FOR PRESERVING WIRELESS RESOURCES IN A WIRELESS LOCAL AREA NETWORK** (Docket No. **CM05200H**), described, illustrated and claimed in an application for Letters Patent of the United States of America executed by us on the dates indicated by our signatures below, together with the entire right, title and interest in and to the application, and in and to Letters Patent which may be issued upon the application, and upon any division, extension, continuation or reissue thereof.

We hereby also sell, assign and transfer unto **MOTOROLA, INC.**, the entire right, title and interest in and to the invention and in and to applications for Letters Patent therefor in all countries foreign to the United States of America, including all rights under any and all international conventions and treaties in respect of the invention and the applications for Letters Patent in foreign countries, and we further authorize **MOTOROLA, INC.** to apply for Letters Patent in foreign countries directly in its own name, and to claim priority of the filing date of the application for Letters Patent of the United States of America under the provisions of any and all international conventions and treaties.

We hereby authorize and request the Commissioner of Patents of the United States of America to issue Letters Patent upon the aforesaid application, division, extension, continuation or reissue, to **MOTOROLA, INC.**, for the sole use and benefit of **MOTOROLA, INC.**, its successors, assigns and legal representatives, to the full end of the term for which Letters Patent may be granted, the same as they would have been held and enjoyed by me had this assignment not been made, and we hereby authorize and request the equivalent authorities in foreign countries to issue the patents of their respective countries to **MOTOROLA, INC.**

We agree that, when requested, we will, without charge to **MOTOROLA, INC.**, but at its expense, sign all papers, take all rightful oaths, and do all acts which may be necessary, desirable or convenient for securing and maintaining patents for the inventions in any and all countries and for vesting title thereto in **MOTOROLA, INC.**, its successors, assigns and legal representatives or nominees.

We covenant with MOTOROLA, INC., its successors, assigns and legal representatives, that the interest and property hereby conveyed is free from all prior assignment, grant, mortgage, license or other encumbrance.

Joseph E. Phillips  
JOSEPH E. PHILLIPS

DATE: 2-5-2004

STATE OF IL

COUNTY OF COOK

The undersigned Notary Public in and for the County and State aforesaid, do hereby certify that Joseph E. Phillips whose name is subscribed to the foregoing instrument, appeared before me this day in person and acknowledged that they signed, sealed and delivered the instrument as their free and voluntary act and deed for the uses and purposes therein set forth.

Given under my hand and notarial seal this 5th day of FEBRUARY, 2004.

My commission expires:



Sheila R Mannerino  
Notary Public Signature

SHEILA R MANNERINO  
Printed Name of Notary Public

Mario F. Derango  
MARIO F. DERANGO

DATE: 2-5-2004

STATE OF IL

COUNTY OF COOK

The undersigned Notary Public in and for the County and State aforesaid, do hereby certify that Mario F. Derango whose name is subscribed to the foregoing instrument, appeared before me this day in person and acknowledged that they signed, sealed and delivered the instrument as their free and voluntary act and deed for the uses and purposes therein set forth.

Given under my hand and notarial seal this 5th day of FEBRUARY, 2004.

My commission expires:



Sheila R Mannerino  
Notary Public Signature

SHEILA R MANNERINO  
Printed Name of Notary Public



Randy L. Ekl  
RANDY L. EKL

DATE: 2/5/04

STATE OF IL

COUNTY OF COOK

The undersigned Notary Public in and for the County and State aforesaid, do hereby certify that Randy L. Ekl whose name is subscribed to the foregoing instrument, appeared before me this day in person and acknowledged that they signed, sealed and delivered the instrument as their free and voluntary act and deed for the uses and purposes therein set forth.

Given under my hand and notarial seal this 5th day of February, 2004.

My commission expires:



Sheila R. Mannerino  
Notary Public Signature

SHEILA R. MANNERINO  
Printed Name of Notary Public

Michael H. Retzer  
MICHAEL H. RETZER

DATE: 2/5/2004

STATE OF IL

COUNTY OF COOK

The undersigned Notary Public in and for the County and State aforesaid, do hereby certify that Michael H. Retzer whose name is subscribed to the foregoing instrument, appeared before me this day in person and acknowledged that they signed, sealed and delivered the instrument as their free and voluntary act and deed for the uses and purposes therein set forth.

Given under my hand and notarial seal this 5th day of February, 2004.

My commission expires:



Sheila R. Mannerino  
Notary Public Signature

SHEILA R. MANNERINO  
Printed Name of Notary Public

# APPENDIX II



**MOTOROLA**  
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eIntelligence - Innovation Disclosure

**Disclosure CM05200H (13433)**

**ID:** CM05200H (13433)  
**Title:** Talkgroup Presence and Rebroadcast Determination at a WLAN Access Point  
**Innovators:** Joe Phillips, Mario DeRango, Randy Ekl, Michael Retzer  
**Status:** Filed   
**Disposition:** Pursue   
**Submitted Date:** 10 May 2002  
**Review Date:** 11 Jun 2002 2:15 PM  
**Motorola Business:** GEMS  
**Patent Committee:** Schaumburg - Systems  
**Business Unit:** GEMS-GTDG (Grube)  
**Organization:** CGISS, GTDG, ADVNCD TECH, ADV DVLP  
**Department:** DQ503  
**Location:** IL02  
**Submit Country:** USA


**Workflow**

Role	Name	Action
First Innovator	<u>Joe Phillips</u>	<u>Verification Complete 5/10/2002</u>
Co-Innovator	<u>Mario Derango</u>	<u>Verification Complete 5/13/2002</u>
Co-Innovator	<u>Randy Ekl</u>	<u>Verification Complete 5/21/2002</u>
Co-Innovator	<u>Michael Retzer</u>	<u>Verification Complete 5/13/2002</u>
Witness	<u>Greg Smikla</u>	<u>Acknowledgement Complete 5/13/2002, Notebook Not Signed</u>
Witness	<u>Kamala Urs</u>	<u>Acknowledgement Complete 5/16/2002, Notebook Not Signed</u>
Manager	<u>Brad Hibon</u>	<u>Acknowledgement Complete 5/28/2002</u>
Technical Reviewer	<u>Les Gustafson</u>	<u>Complete 6/3/2002</u>
Technical Reviewer	<u>John Maher</u>	<u>Complete 6/3/2002</u>

**Reviewer Information**

Role	Name	Action
<u>Technical Reviewer</u>	<u>Les Gustafson</u>	
<u>Technical Reviewer</u>	<u>John Maher</u>	
<u>Grading Results</u>		

#### Documents

Document Name	Description	Document Type	Uploaded By	Uploaded Date	Size
 <u>WLAN_Patent_Idea_17-30.doc</u>	Detailed Description	Unspecified		10 May 2002	38 Kb

#### Questions

##### Name of Innovation or Engineering Development?

Talkgroup Presence and Rebroadcast Determination at a WLAN Access Point

##### What is the problem(s) to be resolved by or need(s) for your idea?

In a WLAN each AP, Access Point, rebroadcasts all multicast packets over the airlink. This happens regardless of whether there are subscriber terminals (STAs) belonging to the multicast group associated with the access point or not. If none of the terminals associated with the AP are listening to the broadcast this is a waste of the wireless link bandwidth.

##### What patents or publications describe your idea and why don't they resolve the problem(s) or fulfill the need(s)?

<http://www.enterasys.com/products/items/RBTR2/>

"The RoamAbout R2 will soon support four levels of Priority Queuing and Service Level Agreements as well as IGMP snooping for better management of multicast traffic, including sound and video."

This device uses standard 802.11. It is unlikely that they do even consider the proposed solution in this disclosure.

<http://www.homenethelp.com/web/review/zyxel-316b.asp>

Prestige 316 11Mbps Router + Access Point link from ZyxEL

"Both IGMP version 1 and IGMP version 2 are supported."

You can configure a LAN with wireless components that support IGMP. It is likely they are using this to filter multicast packets for more traditional network management reasons.

[http://www.alliedtelesyn.co.nz/news/pr\\_010605.html](http://www.alliedtelesyn.co.nz/news/pr_010605.html)

Here a STA supports IGMP. We go quite a bit beyond this in this disclosure.

##### What is the idea you are disclosing? Please provide a written description summarizing the idea.

##### Please define all acronyms and other terms of art used.

The idea being disclosed is for an Access Point in a WLAN to only to rebroadcast a multicast packet if there are subscriber units that are currently in the multicast group. Each AP sniffs Internet Group Management Protocol, IGMP, join messages and forms a presence table of terminal address, multicast addresses the terminal is joined to, and an indication of whether the terminal is associated with the AP. Later when a multicast message is received at the Access Point it is only rebroadcast over the air if there are terminals associated with the Access Point that have previously joined the multicast group. This is especially useful when group dispatch broadcasts are being sent with multicast packets.  
[...see enclosure for more detail.]

##### How does this idea resolve the problem(s) or fulfill the need(s) in a new way?

New elements:

1. An AP only rebroadcasts multicast packets if there are members of the multicast group associated with the AP. Referencing the presence table does this.
2. If the source addressed terminal for the multicast packet is a wireless unit that is associated with the AP, the multicast group is retransmitted if there are other members of the multicast group associated with the AP. In 802.11 Access Points always rebroadcast multicast messages received over the wireless link.
3. If the source terminal associated with an AP requires a retransmit over the air, a bit is set in the multicast packet to signal the AP to always rebroadcast the multicast message even if there are no other members of the multicast group associated with the AP. This is different from 802.11 because STAs will filter out multicast packets that have a source address equal to their own.
4. The AP sniffs all IGMP packets to create a table of subscriber addresses and their joined

multicast groups as well as an indication as to whether they are currently associated with the AP. This can be referred to as a multicast presence table. The AP will remove the association after IAPP procedures have indicated that the terminal (STA) has moved to another AP. These steps prevent the need for a terminal (STA) to re-join a multicast group when it associates with another AP.

**How or where will this idea be used (e.g. what process or product will it be applied to)?**

This will be used in 4.9GHz Public Safety WLAN devices. This could also be applied to devices in the currently available 2.4GHz and 5GHz WLAN devices if we add custom modifications to the 802.11 MAC.

**Please enter one or more key words that may be used to identify your disclosure.**

**Is this disclosure a resubmission of a disclosure you have previously submitted?**  
NO

**Please enter the forum from which this idea originated - e.g. Quest for Innovation, Advanced Inventing Session, Patent Scrub, etc. (Optional).**

**Do you plan to disclose your idea outside of Motorola (e.g. conference, publication, customer meeting, product offering, etc.)?**  
NO

**Is your idea known or has it been disclosed outside of Motorola without a duty of confidence (e.g., non-disclosure agreement, joint development agreement, etc.)?**  
NO

**Has a product incorporating your idea been sold, offered for sale, placed in production, qualification, sampled, described in any publication (including Motorola promotional literature), marketed, shipped to anyone outside of Motorola (customer or distributor), or placed into inventory?**  
NO

**What is the earliest verifiable date that you communicated your idea to an individual that is NOT an innovator (e.g., the date a non-Innovator witness signed your engineering notebook)?**  
Redacted

**Was your idea created or developed through work performed with a consortium, alliance, government contract, university, or joint venture?**  
NO

**Please specify the Export Control Classification Number(s) (ECCN) to which this disclosure pertains**  
Unknown

**Standards**  
None Selected

**Key Technologies**  
CORP - CT (N10) W-LAN/PAN  
CORP - CT (N10) Self-Organizing Pervasive Networks

**Innovators**  
Joseph E Phillips (Joe)

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